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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

THEXTON, MATTHEW

ART UNIT PAPER NUMBER

1714

DATE MAILED: 07/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/647,795

Applicant(s)

DELPHIN ET AL.

Examiner

Matthew A. Thexton

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2005.
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-9 and 20-41 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,3-9 and 20-41 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date one sheet.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Obligation

Applicant is reminded of the continuing obligation under 37 CFR 1.178(b), to timely apprise the Office of any prior or concurrent proceeding in which Patent No. 5880207 is or was involved. These proceedings would include interferences, reissues, reexaminations, and litigation.

Applicant is further reminded of the continuing obligation under 37 CFR 1.56, to timely apprise the Office of any information which is material to patentability of the claims under consideration in this reissue application.

These obligations rest with each individual associated with the filing and prosecution of this application for reissue. See also MPEP §§ 1404, 1442.01 and 1442.04.

Surrender of Original Patent

The original patent, or a statement as to loss or inaccessibility of the original patent, must be received before this reissue application can be allowed. See 37 CFR 1.178.

Text of Title 35 USC not Cited

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Specification

The disclosure is objected to because of the following informalities: Applicant cites "4,152,501" at column 3, line 1, but the submitted IDS (January 25, 1996) in the prosecution of the issued patent 5880207 cited "4,159,301." A review of the content of these documents indicates that the citation in the specification is apparently in error. Applicant is required to provide appropriate correction or to explain how the disclosure of "4,152,501" provides the disclosure attributed thereto in the text of the paragraph bridging columns 2-3.

Claims Status and Version

Claims 1, 3-9, and 20-41 are pending.

Claims as amended and newly added as presented in the response of 2005 February 14 have been examined.

Claims Analysis

Claim 1 is directed to mixtures comprising a matrix of polymethyl methacrylate having dispersed within it particles comprising 80 to 90 weight percent polymethyl methacrylate and greater than 10 to 20 weight percent of an ethylenically unsaturated comonomer that copolymerizes with methyl methacrylate, and the particles comprise more than 0.4 weight percent of a crosslinker, and wherein said matrix comprises a mixture of a syrup of partially polymerized methyl methacrylate containing about 25 % of polymethyl methacrylate solids with excess methyl methacrylate monomer. This claim

Art Unit: 1714

is interpreted to require the uncured matrix, i.e., the methyl methacrylate monomer is present.

Claims 3-9 depend directly or indirectly on claim 1 and further limit the comonomer species, the crosslinker species, more specific amounts of crosslinker, or the particle size range before being mixed.

Independent claim 22 is directed to mixtures consisting of a matrix of polymethyl methacrylate having dispersed therein particles, which particles comprise 80 to 88 weight percent polymethyl methacrylate and 12 to 20 weight percent of an ethylenically unsaturated comonomer that copolymerizes with methyl methacrylate, and the particles comprise more than 0.4 weight percent of a crosslinker, and the mixture further includes one or more of colorants, initiators, and surfactants. This claim is interpreted to require the uncured matrix, i.e., the methyl methacrylate monomer is present.

Claims 23-31 depend directly or indirectly on claim 22 and further limit the comonomer species, the crosslinker species, more specific amounts of crosslinker, the particle size range before being mixed, the proportion of particles in the mixture, or the proportion of matrix in the mixture.

Independent claim 32 is directed to methods of making an article comprising: (a) forming mixtures comprising a matrix of polymethyl methacrylate having dispersed within it particles comprising 80 to 90 weight percent polymethyl methacrylate and greater than 10 to 20 weight percent of an ethylenically unsaturated comonomer that copolymerizes with methyl methacrylate, and the particles comprise more than 0.4 weight percent of a crosslinker, and wherein said matrix comprises a mixture of a syrup

Art Unit: 1714

of partially polymerized methyl methacrylate containing about 25 % of polymethyl methacrylate solids with excess methyl methacrylate monomer, (b) curing the mixture, and (c) thermoforming the cured mixture.

Claims 32-41 depend directly or indirectly on claim 32 and further limit the comonomer species, the crosslinker species, more specific amounts of crosslinker, the particle size range before being mixed, the proportion of particles in the mixture, or the proportion of matrix in the mixture.

New Matter Claim Rejections - 35 USC § 112

Claims 1, 3-9, 20, 21, and 30-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Each of these claims has a numerical value which in the original specification including the claims was presented with the modifier "about" but currently does not have this modifier. Narrowing or removal of subject matter is considered new matter, i.e., subject matter not in the possession of Applicant at the time of filing. Specifically, claim 1 (about 80), claim 20 (about 5 to about 20), claim 30 (about 5 to about 20), claim 31 (about 80 to about 95), claim 32 (about 80), claim 40 (about 5 to about 20), claim 41 (about 80 to about 95).

Claim Rejections - 35 USC § 112

Claims 22-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 recites "An acrylic composition consisting of..." but has component "particles comprising," "a comonomer comprising" and "said particle comprise." The limitations are contradictory and thus render the claim indefinite.

Response to Arguments

Applicant's arguments, see pages 7-8 of response, filed 2005 February 14, with respect to Seki et al. (US 5039749), Deckers et al. (EP 0582951 A2, as evidenced by US 5475055 A), Wu et al. (US 5237004 A), Hennig et al. (US 4876311), and Roemer et al. (US 4396476) have been fully considered and are persuasive. The rejections based on these references have been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of the amendments to the claims.

Claim Rejections - 35 USC § 103

Claims 1, 5-8, 22, 25-28, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimatsu (JP 04-279668-A, as understood from Applicant-supplied translation) in view of Buser et al. (US 4159301).

The present claims are broadly discussed hereinabove in the section ***Claims Analysis*** which is incorporated by reference.

The reference '668 discloses copolymer particles comprising MMA and styrene and crosslinker EGDM added to a syrup of MMA and ethyl acrylate and initiator 2,2-azobis-isobutyronitrile (example 1, page 7 of translation). The PMMA content of the syrup is not divulged.

Reference '301 discloses similar mixtures of resin particles added to resinous syrup. It is explained that the use of polymer in the monomer to obtain the syrup is useful to control the viscosity of the curable mixture (paragraph bridging columns 2-3) and in examples used 17.9 weight % (example 1), 19.8 Wt % (example 2), 6.6 wt % (example 4), 0 to 10 volume % (example 5), 20 wt % (example 6-8).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have followed the observation and suggestion of '301 to vary the amount of PMMA to suitably control the viscosity of the curable particle and syrup mixture in the mixtures of '668. It is noted that Applicant's claim and disclosure employs dilution of the syrup of about 25 % PMMA with MMA which means the matrix must be less than 25 % PMMA. It is not considered that one could determine from a mixture as claimed whether the MMA was present in the making of the syrup or mixed in later; mixing would obscure the origin of MMA; thus the prima facie obvious mixtures are indiscernible from the claimed subject matter.

Allowable Subject Matter

Claims 3, 4, 9, 20 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 1st paragraph, set forth in this Office action.

Claims 23, 24, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Claims 32-41 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 1st paragraph, set forth in this Office action.

Conclusion

Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 2005 February 17 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

Art Unit: 1714

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew A. Thexton whose telephone number is 571-272-1125. The examiner can normally be reached on Monday-Friday, 9:30 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan S. Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1714

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Matthew A. Thexton
Primary Examiner
Art Unit 1714